

# **RECORD OF DECISION**

## **TELEPHONE FLAT GEOTHERMAL DEVELOPMENT PROJECT**

**ON**

### **FEDERAL LEASES**

**CA 12370, CA 12371, CA 12372, CA 13803, CA 21933, and CA 2500**

### **DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT ALTURAS FIELD OFFICE**

**and**

### **DEPARTMENT OF AGRICULTURE FOREST SERVICE MODOC NATIONAL FOREST**

### **MODOC AND SISKIYOU COUNTIES CALIFORNIA**

## **I. INTRODUCTION**

This document, prepared by the Bureau of Land Management (BLM) and the Forest Service (FS), is the Record of Decision (ROD) for the Telephone Flat Geothermal Development Project. This ROD is prepared in accordance with the National Environmental Policy Act (NEPA) and Title 40 of the Code of Federal Regulations (CFR), Chapter V, in part.

In 1997, CalEnergy Corporation submitted a Plan of Operation and Special Use Application for the development of geothermal resources on and off Federal leases located within the Glass Mountain Known Geothermal Resource Area (KGRA). In February 1999, the BLM and the FS, in cooperation and partnership with Bonneville Power Administration (BPA), and Siskiyou County Air Pollution Control District, released the *Telephone Flat Geothermal Development Project Final Environmental Impact Statement/ Final Environmental Impact Report* (FEIS/FEIR). The Plan of Operation or Proposed Action consisted of a proposed power plant site and well field, and an Alternative Transmission Line Route 1 (segments D-1 and A-2) as

shown on Figure ES-9 and ES-11 in the Executive Summary, and on Figure 2.2.10 and Figure 2.2.18 in the FEIS/FEIR. Two other power plant locations, sites A and B, and a second transmission route, Alternative Transmission Line Route 2 (segments D-2 and B-2) were also analyzed in the FEIS/FEIR. The Preferred Alternative disclosed in the FEIS/FEIR was to approve the Project. A ROD denying the Proposed Action was signed by the BLM and the FS in May 2000.

In October 2000, the project proponent (CalEnergy) filed law suit against the BLM and the FS in the U.S. Court of Federal Claims for the denial of the Telephone Flat Geothermal Development Project alleging breach of contract and takings claims. In November 2001, CalEnergy was acquired by Calpine Corporation (Calpine). During the course of litigation, a National Energy Policy was issued that encourages the BLM and FS to reassess domestic sources of renewable energy. In April 2002, Calpine and the United States entered into an agreement to stay the litigation and to provide the BLM and the FS an opportunity to reassess their decision denying the Telephone Flat Geothermal Development Project. This ROD is the culmination of that reconsideration process and replaces and supercedes the previous ROD dated May 31, 2000.

## **II. DECISION**

After careful reconsideration of all perspectives and factors, including consultation with area tribes, balancing the need for renewable energy with the need to protect visual resources and traditional cultural values and practices associated within the Medicine Lake Highlands, we have concluded that the overall interests of the public would be best served by reversing the earlier decision, selecting the Proposed Action (proposed power plant site) with the modification of selecting Alternative Transmission Line Route 2 (segment D-2 and B-2) instead of Alternative Transmission Line Route 1. This Proposed Action, as modified, is now the Telephone Flat Geothermal Development Project, as Amended (the Project). It is our decision to approve the Project, as amended by this ROD. All mitigation measures identified within the FEIS/FEIR for the Project are considered part of this ROD and can be found in the FEIS/FEIR.

As part of this decision, the Project is further amended by incorporating additional Permit Conditions of Approval (COA) and Agency Commitments which are based on the principles within the Memorandum of Agreement (MOA) made part of the ROD for the approved Fourmile Hill Geothermal Development Project located approximately 6 miles to the northwest of this Project and adjacent to the Medicine Lake Highlands. The Fourmile Hill MOA was developed by the BLM and the FS in consultation with the Klamath Tribes, Pit River Tribe, Shasta Nation, Shasta Tribe Incorporated, the Modoc Tribe of Oklahoma (collectively, Tribes), and in discussion with the Native Coalition for Cultural Restoration of Mount Shasta and Medicine Lake Highlands Defense (Coalition), the Advisory Council on Historic Preservation (ACHP), the California State Historic Preservation Officer (SHPO), Calpine and the BPA to minimize the effects of the Fourmile Hill Geothermal Development Project on historic properties in and adjacent to the Medicine Lake Highlands.

Through the government-to-government consultation process for the Telephone Flat Geothermal Development Project, as Amended, the BLM and the FS proposed to the Tribes, the Coalition, the SHPO and the ACHP to develop a MOA similar to the one developed for the Fourmile Hill Geothermal Development Project. However, the Tribes were not in agreement to develop a MOA for this Project. Nevertheless, both the BLM and the FS have determined that many of the principles of the Fourmile Hill MOA that minimize the effects of geothermal development on historic properties within the Medicine Lake Highlands are also pertinent to this Project. Therefore, those principles were considered in developing the Permit Conditions of Approval and Agency Commitments (see Section VII. Additional Mitigation Measures).

### **III. REASONS FOR THE DECISION**

In April 2002, the Department of Justice entered into a settlement agreement, whereby the BLM and the FS agreed to reassess the information and factors associated with the original decision. We have reviewed the entire record, completed further environmental analysis and conducted further consultation with the Tribes and considered other factors (see Section III. B) prior to making our decision.

#### **A. Reason for Reversal of the Original Decision**

**1. Approval of the Plan of Operation Is Consistent with the Modoc National Forest Land and Resource Management Plan (LRMP).** The original decision denying the project was based partly on a finding that approval of the project would not be consistent with the LRMP that is the forest-wide standard and guideline to “protect” and “conserve” cultural resources, that standard in effect precluded geothermal development. In fact, the National Forest Management Act, and the LRMP state that forest plans do not modify existing contracts, such as the pre-existing geothermal lease. Additionally, the forest-wide standards and guidelines must be read in conjunction with all other forest-wide management direction; other standards and guidelines; and specific management area direction. For the Medicine Lake Management Area, the LRMP direction is that “other management activity should not preclude geothermal development.” The forest-wide standard and guideline, to “protect” and “conserve” cultural resources, was not meant to exclude all forest uses and was intended to be applied to tangible physical artifacts and sites that may exist within the footprint of a project. The nomination of the Cultural District postdates the LRMP and the FS has not committed to the exclusion of all other forest uses within the District. Therefore, other management projects may be permitted within the District.

The original ROD denying the project was also based, in part, on the finding that issuance of a special use permit in a Managed Late Successional Area (MLSA) was not consistent with the LRMP, as amended by the Northern Spotted Owl Amendment. This is a misinterpretation of the Northern Spotted Owl Amendment. The Northern Spotted Owl Amendment does not preclude issuance of special use permits in areas of MLSA.

**2. Approval of the Plan of Operations Is Consistent with the FS Policy on Permitting of Special Uses.** The original ROD denying the project was based, in part, on the finding that issuance of a special use permit was not consistent with FS policy. This was based on a mis-reading of the special use regulation, which states that the FS must reject proposals that would not be consistent or compatible with the purpose for which the lands are managed. As explained above, the management direction in the LRMP, in general, allows geothermal development and, specifically, the Medicine Lake Management Area is dedicated to geothermal development. Therefore, the proposed permit is consistent with the purposes for which the lands are managed. The original denial was also based on an interpretation that a transmission line through a roadless area was contrary to the FS Interim Road Prohibition Rule, which has since expired. (It should be noted that Alternative Route 2 does not cross a roadless area.)

**3. Approval of the Plan of Operation Is Consistent with the Lease Terms and Conditions.** The original ROD denying the project was based, in part, on the finding that approval of the project was not consistent with the lease terms and conditions. Part of the rationale was that because the issuance of a FS special use permit was not consistent with FS regulation and policy, the lessee could not meet all applicable laws and regulations. As discussed above, this finding was based on an incorrect interpretation of FS policy.

Secondly, the finding that approval of the project is not consistent with the terms and conditions of the lease is based on a mis-reading of Section 18 of the standard geothermal lease form. Section 18 of the geothermal lease form states “The Lessee shall immediately bring to the attention of the Authorized Officer any antiquities or other objects of historic or scientific interest, including but not limited to historic or prehistoric ruins, fossils or artifacts discovered as a result of operations under this lease, and shall leave such discoveries intact. Failure to comply with any terms and condition of preservation of antiquities may constitute a violation of the Antiquities Act (16 U.S.C. 431-433).”

The intent of this section is clearly to protect tangible physical artifacts that may exist within the footprint of a project. As in this case, both the Proposed Action and the Project have been surveyed, or will be surveyed prior to any ground disturbing activity, to determine the presence of such artifacts. The FEIS/FEIR thoroughly addressed this issue and on page 3.5-8, section 3.5.3.3.1, states “The Proposed Action would not affect any recorded cultural resources or paleontological resources within the study area.” Since the FEIS/FEIR concludes that physical cultural resources will not be impacted within the study area and the study area includes the Project; the Project is, therefore, consistent with lease terms and conditions.

**4. The Production of Renewable Geothermal Energy Is in the Public Interest and Is in Concert with Managing for Other Forest Uses and Values.** The original ROD denying the project found the current and expected traditional uses and values associated with the setting of the Medicine Lake Caldera area exceeded those values obtained by developing the geothermal power at Telephone Flat. While the traditional values and uses associated with the setting of the Medicine Lake Caldera area have remained the same since the denial of the Proposed Action in

May 2000, the demand for electrical energy surrounding this area has continued to change. In particular, there was an increased focus on developing geothermal resources as a result of our country's energy policy and California's requirement to increase renewable energy supplies at least by 20 percent by 2017. This Project will provide sufficient electrical energy to supply the needs of approximately 50,000 homes. The need for electrical energy in the West, and particularly California, has significantly changed since May 2000.

While the BLM and the FS acknowledge the impacts from the Telephone Flat Project on traditional values and uses, many of the impacts can be mitigated by implementing the measures outlined in this ROD. The most obvious impacts such as visual, noise and general increased activity within the area are temporary in nature. After the drilling and construction phase, the intermittent activity that would take place over a 3-year period, the impacts from visual, noise and the overall general activity will be reduced to a large extent. The Project has a project life of approximately 45 years, after which the wells would be plugged and abandoned, the pipelines, power plant, ancillary facilities, and transmission line dismantled and removed, and the disturbed areas reclaimed and re-vegetated. Once reclaimed, it is anticipated that the Project's physical impact to surface resources will be negligible. Most of the identified features important to American Indian traditional use will not be physically impacted by this operation, but there will be a presence of energy development within the Medicine Lake Caldera that is not there today. The Medicine Lake Caldera is the remnant of a collapsed volcano about 6 miles long and 4 miles wide and about 2,500 feet above the surrounding Medicine Lake Highlands, a volcanic terrain several hundred square miles in area. The total acreage disturbed is a fraction of 1 percent of the Medicine Lake Highlands, and the general project area encompassing well sites, power plant and the transmission line is less than 3 percent of the Medicine Lake Highlands.

Although the FEIS/FEIR identifies the proposed power plant location and Alternative Transmission Line Route 1 as the agency's preferred alternative, consultation with the Tribes, as a result of the reconsideration process, revealed that the viewshed from Red Shale Butte on the east side of the Medicine Lake looking westward towards Medicine Lake and Mt. Shasta, was very important to their spiritual use of the area. Recent visits to Red Shale Butte by the Tribes and the ACHP have confirmed that if constructed the power plant and Alternative Transmission Line Route 1 (segments D-1 and A-2) would be seen from Red Shale Butte. Mitigation of the visual effect of the transmission line (Route 1) has been determined to be more difficult than mitigating the visual effects of the power plant, and the selection of Route 2 will eliminate this impact to the viewshed looking westward from Red Shale Butte. Route 2 would also avoid the impacts that Route 1 would have on the Mt. Hoffman Released Roadless Area (MHRRA) and visual impacts in the area of the Glass Mountain glass flow.

To accommodate the concerns expressed by Tribes, the ACHP, and members of the public, the BLM and the FS are selecting Alternative Transmission Line Route 2, which will reduce, but not eliminate, the visual impact of the Project on the Red Shale Butte viewshed. The viewshed of Red Shale Butte was not considered as a Key Observation Point (KOP) in the FEIS/FEIR process since the area is closed to vehicle traffic and can only be accessed by foot, or by vehicle during

official tours by the FS. In the case of the MHRRA and the Glass Mountain glass flow however, Alternative Transmission Line Route 2 will not cross these two areas and so it will eliminate the impacts of the 230-kV transmission line on spiritual use. Impacts associated with Alternative Transmission Line Route 2 were thoroughly analyzed in the FEIS/FEIR. While this route will impact the MLSA on the south and southeast side of Red Shale Butte and Lyons Peak, these impacts can be mitigated by adopting the management recommendations of the Amended Biological Assessment, whereas the visual impacts of Alternative Transmission Line Route 1 within the viewshed of Red Shale Butte could not be mitigated. The power plant will remain in the same location, alternative site A, as addressed in the FEIS/FEIR.

To reduce the impacts on traditional values and uses, the BLM and the FS have agreed to approve the proposed power plant site coupled with Alternative Transmission Line Route 2, instead of Alternative Transmission Line Route 1. This alternative, the same as “the Project,” will reduce the impact of the transmission line on the viewshed looking westward from Red Shale Butte, and eliminate the impacts on the MHRRA and the Glass Mountain glass flow. These impacts were identified in the FEIS/FEIR. There has been considerable deliberation on this particular aspect of the Project in order to balance the public’s interest in renewable energy and weigh the needs of the Tribes and other affected groups. For the reasons discussed above, we conclude that the social and environmental benefits achieved from the Project’s production of renewable electrical energy are a reasonable trade-off to the temporary impacts associated with the Project.

## **B. Other Factors**

**1. Renewable Energy Needs.** There has been an increased emphasis on exploring and producing geothermal energy to help supply our energy needs. Geothermal energy is a good source of clean, reliable energy which can help to diversify the Nation’s domestic energy portfolio and provides an excellent opportunity to reduce our dependency on fossil fuels.

In the late 1990s, market conditions provided a limited opportunity to sell geothermal power. In 2001, the Department of Energy’s Energy Information Administration predicted that over the next 20 years, if conditions remain constant, US energy consumption will increasingly outpace US energy production. Renewable energy resources can play an important part in an overall energy plan to ensure energy stability.

In May 2001, a National Energy Policy was adopted which directed federal agencies to develop strategies to plan for the country’s future energy needs by developing our energy resources in a sound environmental manner. This long-term comprehensive strategy focuses on increasing conservation, modernizing and expanding energy infrastructures, ensuring environmental protection, and strengthening our national energy security. Renewable energy development was specifically highlighted as an important integral part of the policy. It was recommended that agencies look at opportunities to enhance production of renewable energy resources such as geothermal energy on federal lands. As directed by this policy, the Secretaries of the Interior and Energy are also working with Congress to legislate the use of lease revenues to fund research into

renewable energy resources, including geothermal energy resources. The National Energy Policy or its direction was not in place at the time the FEIS/FEIR for the Telephone Flat Geothermal Development Project was issued in February 1999.

Recently, Governor Grey Davis signed into law a Renewable Energy Portfolio that will require the three major utilities in California to have at least 20 percent of their energy sources derived from renewable energy resources, including geothermal, by 2017. With current renewable energy sources supplying between 8-10 percent of California's energy needs, the demand for such resources will continue to increase. This increase in demand, coupled with an increasing public awareness of the potential for carbon dioxide to affect our atmosphere, continues to place demand on the use of geothermal energy sources in California, the West, and throughout the world.

**2. Alternative Transmission Line Route 2 Avoids Cultural District and Minimizes Impact to Medicine Lake Area.** To avoid impacting the Medicine Lake Area Traditional Cultural Places District and the Medicine Lake Area, Transmission Line Route 2 is being selected. Although longer and more expensive for the project proponent, Route 2 leaves the area directly to the east and thus avoids the Cultural District and the Medicine Lake area.

Alternative Transmission Line Route 2 does impact approximately 130 acres of suitable habitat for Northern Spotted Owl roosting/foraging habitat within the MLSA on the south and southeast slope of Lyons Peak to the east of the Medicine Lake Caldera. There are 23,615 acres of suitable roosting/foraging habitat on the Modoc National Forest. The Northern Spotted Owl Plan Amendment requires that the impacts to the MLSA be neutral or beneficial for the Northern Spotted Owl. For the acres of MLSA affected by the proposed transmission line, offset replacement acreage has been identified within the planning area that will be managed as late successional reserve. Therefore, this route is consistent with current FS policy regarding the approval of activities within MLSA. By adopting the management recommendations of the Amended Biological Assessment, the selection of Alternate Transmission Line Route 2 is consistent with the Modoc National Forest LRMP, as amended by the Northern Spotted Owl Plan Amendment. In addition, Calpine and any successor-in-interest must comply with any terms and conditions and any other requirements resulting from Section 7 Consultation of the Endangered Species Act.

**3. NEPA Sufficiency.** In November 2002, a report (*Update Assessment for the Telephone Flat Geothermal Development Project Final Environmental Impact Statement/Environmental Impact Report*) was prepared documenting a review of the FEIS/FEIR. This report concludes no significant new circumstance or information relevant to environmental concerns and bearing on the Proposed Action (proposed power plant site and Alternative Transmission Line Route 1) has occurred since the FEIS/FEIR was released in February 1999. The analysis of the current conditions determined that Alternative Transmission Line Route 2, as analyzed in the FEIS/FEIR, is technically and financially feasible, and the impacts of this transmission route on American Indian cultural values are less than the impacts of Alternative Transmission Line Route 1. The "Update Assessment" also identified no new significant environmental impacts potentially

resulting from the Proposed Action, or the Project (proposed power plant site and Alternative Transmission Line Route 2), no new mitigation measures proposed to be implemented, nor did it find a substantial increase in the severity of any environmental impact that would now result from the Project.

**4. Tribal Consultation.** The BLM and the FS acknowledge the importance of the Medicine Lake Highlands, particularly within the caldera, to tribal governments, communities and individual traditional practitioners. Both the BLM Director and the FS Chief met with the Chairman of the Klamath Tribes and the Chairman of the Pit River Tribe. The agencies also took into consideration the opinions of the SHPO and the ACHP, both of whom opposed the Project. However, both the BLM and the FS believe that the utilization of renewable energy resources, such as geothermal, is in the public interest for the United States, and can be used while not eliminating American Indian traditional values and uses of the area. Based upon the recent discussion by the BLM Director and the FS Chief with the Klamath Tribes and the Pit River Tribe, the agencies decided to use Alternative Transmission Line Route 2 to reduce the impacts of this transmission route on American Indian traditional values and uses.

**5. Leasehold Interests.** In addition to the key rationale identified in the above items 1-4, the BLM and the FS decision is based upon the combination of several other factors, including the lease right previously granted to the Federal leaseholder to explore for, and utilize the geothermal resource located within the boundaries of the lease, and the leaseholder's compliance with all terms and conditions set forth in those leases.

Part of the rationale to deny the Proposed Action in the original ROD dated May 2000 was based upon the determination made by the BLM that the leaseholder had not complied with applicable laws and regulations to obtain necessary permits, including the FS Special Use regulations, and the Interim Road Prohibition Rule (this rule has since expired). At that time it was determined that issuance of a special use permit was not consistent with FS policy. That determination was based on an incorrect interpretation of the special use regulations, and therefore Calpine and any successor-in-interest should be able to acquire the necessary FS permits for the Project.

## **C. Record of Decision**

This ROD is a joint BLM and FS document. However, each agency is making decisions that pertain to separate activities identified in the Plan of Operation for the Project.

**1. Bureau of Land Management.** For the BLM, the decision pertains to all activities within the lease boundaries which include:

- a. construction, operation, and maintenance of the well fields, including both production and injection wells;
- b. construction, operation and maintenance of the pipelines; and



- c. construction, operation and maintenance of the power plant.

These activities will be authorized by the issuance of a Geothermal Drilling Permit and Sundry Notice, a Facility Construction Permit, a Commercial Use Permit, and a Geothermal Site License.

**2. Forest Service.** With regard to the FS's decision, it include:

- a. permitting construction, operation and maintenance of a 230-kV overhead transmission line;
- b. issuance of a road use permit for access to the power plant;
- c. permitting temporary water well use and water line placement and maintenance; and
- d. issuance of a Forest Order that prohibits firearm discharge within the vicinity of the Telephone Flat power plant.

#### **IV. GOVERNMENT CONSULTATION AND PUBLIC INVOLVEMENT**

On April 4, 2002, Calpine and the United States entered into a Settlement Agreement in the U.S. Court of Federal Claims providing the BLM and the FS the opportunity to reconsider the May 31, 2000 denial of the Telephone Flat Proposed Action. As part of the process of the reconsideration, it was necessary to re-initiate consultation under Section 106 of the National Historic Preservation Act, with the Tribes and others to discuss the Proposed Action and explore the possibilities of mitigation measures which could reduce, or possibly eliminate, impacts of the Proposed Action, if approved, on the American Indian traditional values and uses in the Medicine Lake Highlands. In addition, the public was asked to participate and comment at several points during the reconsideration process. A list of the various tribal, agency, and public contacts that were made as part of this reconsideration process is contained in the Table below:

<b>Date</b>	<b>Contacts</b>	<b>Type of Contact</b>
April 5, 2002	Pit River, Klamath Tribes, Shasta Nation, Shasta Consolidated, Native Coalition, SHPO, ACHP	Telephone calls made by BLM to advise of the Settlement Agreement/Reconsideration of Telephone Flat Project. Sent fax of Settlement Agreement
April 11, 2002	Pit River, Klamath Tribes, Shasta Nation, Shasta Consolidated, SHPO, ACHP	BLM sends letter addressing reconsideration process and requests comments/meeting within 30 days

<b>Date</b>	<b>Contacts</b>	<b>Type of Contact</b>
May 29, 2002	Pit River, Klamath Tribes, Shasta Nation	Telephone call made to follow-up on letter of April 11, 2002
May 31, 2002	BLM-Alturas Field Office	Letter sent to interested parties requesting comments on changes which have occurred since FEIS/FEIS was released in February 1999 – 30 day review period.
July 13, 2002	Shasta Nation	Consultation meeting with BLM and FS in Macdoel, CA
July 15, 2002	Klamath Tribes, Pit River Tribe, ACHP	BLM/FS leads tour of Telephone Flat area
July 16, 2002	Pit River Tribe	Consultation meeting with BLM and FS in Burney, CA
August 8, 2002	Klamath Tribes	Consultation meeting with BLM and FS in Chiloquin, OR
August 16, 2002	BLM	BLM send letter to ACHP advising of determination to terminate consultation on Telephone Flat Reconsideration Project effort.
August 22, 2002	Pit River, Klamath Tribes	FS leads tour of Medicine Lake Highlands for input on HPMP
September 16, 2002	ACHP, Pit River, Klamath, SHPO	BLM leads tour for ACHP of Telephone Flat and Fourmile Hill areas.
September 16, 2002	Public Meeting	ACHP Public Meeting on the reconsideration of Telephone Flat Project at Mt. Shasta, CA
September 27, 2002	ACHP	ACHP responds to Secretaries of Agriculture and the Interior on the findings and recommendations for the Telephone Flat Reconsideration Project.
October 15, 2002	BLM-Director, FS Chief, Klamath Tribes, and Pit River Tribes	Consultation meeting on Telephone Flat in Denver, CO

Both the BLM and the FS realize the importance of American Indian traditional values and uses in the Medicine Lake Highlands, and made significant efforts to engage the Tribes and to fully understand their concerns. Due to this importance, the BLM Director and the FS Chief met directly with the Chairman of the Klamath Tribes and the Chairman of the Pit River Tribe, to listen to their concerns and issues associated with the Telephone Flat Proposed Action. In addition, the September 27, 2002 letter from the ACHP responding to BLM's decision to terminate consultation and findings/recommendations from the ACHP's public tour and hearing on the reconsideration process were carefully considered. As a result, and after consideration of competing demands, the agencies determined that the Project (proposed power plant site, coupled with Alternative Transmission Line Route 2) would further reduce, but not eliminate, some of the impacts to American Indian traditional values and uses.

In terms of public outreach, BLM sent a letter on May 31, 2002, to approximately 125 individuals and groups, addressing the April 4, 2002, Settlement Agreement allowing the BLM and the FS the opportunity to reconsider the denial of the Telephone Flat Proposed Action. The letter specifically requested comments addressing any changes that may have occurred since the 1999 FEIS/FEIR was released in February 1999. During the 30-day public comment period identified in the letter (May 31 to June 30, 2002), a total of 24 letters, postcards, and e-mails were received by BLM. Of the 24 documents or e-mails received, 19 stated that they supported the May 2000 denial of the Telephone Flat Geothermal Development Project and that nothing had changed since the date of that decision. One letter addressed concerns over impacts to recreation, groundwater, cultural resources, noise, visual quality, and the cumulative impacts associated with the development of up to 600 megawatts of geothermal powered electricity in the Medicine Lake area. Two letters also addressed concern over the financial stability of Calpine due to the decreasing value of the company's stock and bond rating. The remaining two letters voiced support for the Project and yet agreed with the 19 letters stating that nothing had changed since the release of the 1999 FEIS/FEIR or the May 31, 2000, decision denying the Telephone Flat Proposed Action.

## **V. ALTERNATIVES CONSIDERED**

In response to public issues, the FEIS/FEIR documents the effects of three alternative power plant locations and two transmission line routes from each power plant location. Figures 2.2.10, 2.3.1 and 2.3.3 in the FEIS/FEIR display the general location of the power plant and associated well field/reinjection fields. In regards to transmission line alternatives, there are two major routes analyzed. These are displayed in Figure 2.4.1 of the FEIS/FEIR with the study area for each alternative being a 1000-foot wide corridor. The alternatives respond to avoiding the visual and noise impacts to the Medicine Lake area and entry into the MHRRA.

### **A. Proposed Action, as Amended (Selected Alternative and Power Plant)**

The Telephone Flat Proposed Action is located in Siskiyou County on federal lands that are managed by the Modoc National Forest. The subject federal geothermal leases are within the

Glass Mountain KGRA, which is managed by the Alturas Field Office of the BLM. The Proposed Action is to construct and operate a 48-megawatt geothermal power plant located approximately 2 miles east of Medicine Lake and within the Medicine Lake Caldera. Associated construction would involve 18 well pads, pipelines, an overhead transmission line and access roads. The Proposed Action is defined in three phases: construction, operation and decommissioning. The construction phase will occur over a 3-year period. The power plant is anticipated to operate for 45 years and would generate up to 48 megawatts of electricity hourly. At the end of the 45-year operation phase, the decommissioning phase would commence.

## **B. Transmission Line**

Calpine proposes to construct and operate a 230-kV overhead transmission line that would extend from the Telephone Flat geothermal power plant and connect to the agency selected transmission line route for the approved Fourmile Hill Geothermal Project. The FEIS/FEIR incorporated by reference the analysis of that portion of the Fourmile Hill transmission line route that would be identical for this Project. The transmission line would be a wood pole H-frame construction and extend for approximately 12 miles on National Forest System lands, if approved via Alternative Transmission Line Route 2 segments D-2 and B-2. The line would extend in an easterly direction from the power plant location and run south of Red Shale Butte and Lyons Peak before heading in a northeasterly direction for several miles, and then easterly for several more miles until the line reaches the COTP 500-kV transmission line corridor. Once in the corridor, the line parallels the 500-kV line in a northeasterly direction until it intersects the 230-kV line coming from the Fourmile Hill geothermal project. The Telephone Flat transmission line would then connect with the approved Fourmile Hill route and continue in a generally eastward direction until it connects to the BPA Malin-Warner 230-kV line.

Calpine also proposes to place an above ground temporary water line from the existing ground water well in the Arnica Sink area to the Project site. The Proposed Action, as modified by the inclusion of the Alternative Transmission Line Route 2 instead of Route 1, includes the need for year-round access to the Project site for construction and operation of the geothermal facilities.

## **C. Alternative Power Plant Locations**

Two power plant alternatives are analyzed in the FEIS/FEIR. One site (Alternative Power Plant Site A) is located approximately ¼ mile east of the Proposed Action (proposed power plant site) and the other site (Power plant Alternative B) is located ½ mile east of the Proposed Action site. These alternatives were not selected since the movement of the power plant away from the productive center of the geothermal reservoir anticipated to be near well #87-13 increases the requirement for additional production wells, and therefore, additional surface disturbance in order to compensate for the energy loss caused by the greater distance between the production well field and the power plant.

## **D. Alternative Transmission Line**

The Alternative Transmission Line Route 1 would extend in a northerly direction from the power plant location and go east of Mt. Hoffman and bisect the MHRRA. It would then connect with the approved Fourmile Hill 230-kV transmission route and continue in a generally eastward direction until it connects to the BPA Malin-Warner 230 kV line. This route was not selected since it would impact the viewshed of Red Shale Butte looking westward towards Mt. Shasta, create greater impacts to American Indian traditional values and uses, and physically impact both the MHRRA and the Glass Mountain flow.

## **E. No Action Alternative**

The No Action Alternative would not approve the Project. The No Action Alternative is the environmentally preferred alternative because it would create no additional environmental impacts. The No Action alternative would also preclude the ability for the potential geothermal energy within this area to help address our country's current energy needs and contribute to a clean, diverse portfolio of energy sources.

## **VI. ALTERNATIVES NOT CONSIDERED IN DETAIL**

### **A. Alternatives that were Considered but Eliminated from Detailed Study**

1. Additional Alternative Power Plant Locations
2. Additional Alternative Transmission Line Routes
3. Buried Electrical Transmission Line

### **B. Rationale for Dismissing the Alternatives**

**1. Additional Alternative Power Plant Locations.** Concern was expressed about the proximity of the power plant to the seasonally occupied residential and developed recreational facilities near Medicine Lake. Two alternative power plant sites are analyzed in the FEIS/FEIR. Additional plant locations that were located further from Medicine Lake were determined to be uneconomical, not technically feasible and equivalent to the No Action Alternative. Unlike oil and gas development, geothermal power development must be done near the well location. As the geothermal resource is transported via pipeline away from the wellhead, the efficiency of the operation decreases and the need for additional wells increases, thereby resulting in additional environmental impacts.

**2. Additional Alternative Transmission Line Routes.** The primary objective of the transmission line is to connect the power generation capability of the proposed power plant to the BPA transmission line system. The nearest BPA connection is located east of the project

area at the Malin-Warner 230-kV transmission line. The routes that are analyzed in detail in the FEIS/FEIR are those that minimize the length of construction and reduce the impacts associated with construction, operation and maintenance of the line. Routes in a westward, southerly or northerly direction from the power plant were not considered in detail because the routes would require significantly more surface disturbance, would impact more environmentally sensitive areas, and would be more costly and not reduce the overall impacts associated with the transmission line.

**3. Buried Electrical Transmission Line.** Although technically feasible, buried transmission lines are extremely costly. The cost can be as much as 8 to 12 times that of an overhead transmission line. The significantly higher cost for construction was the primary reason for not analyzing this alternative. Calpine has stated that the requirement to bury the transmission line would financially burden the Project to such a degree that the Project would be uneconomical and Calpine would not pursue development of the Project.

## **VII. ENVIRONMENTALLY SUPERIOR ALTERNATIVE (CALIFORNIA'S ENVIRONMENTAL QUALITY ACT)**

California's Environmental Quality Act (CEQA) states that if the "No Project Alternative" (No Action Alternative) is the "Environmentally Superior Alternative," then the Environmental Impact Report must also identify from the other Alternatives an Environmentally Superior Alternative (CEQA Guidelines Section 15126(d)(4)). Similarly, NEPA regulations require that when preparing an Environmental Impact Statement in the ROD must identify an Environmentally Preferable Alternative.

Based on the analysis provided in the FEIS/FEIR, the No Action Alternative could be considered the Environmentally Superior Alternative (under NEPA this is the environmentally preferred alternative) because it would create no additional environmental impacts. However, it would also preclude the ability for the potential geothermal energy within this area to help address our country's current energy needs and partially California's demand for additional renewable energy. To comply with CEQA requirements, a new Environmentally Superior Alternative would need to be selected from among the other alternatives.

As identified in the 1999 FEIS/FEIR, the alternative that would cause the least damage to the biological and physical environment, and that would best protect, conserve and preserve, historic, cultural and other natural resources, while meeting both the objectives of, and the purpose and need for the Project, would be the Proposed Action, as modified (proposed power plant site and Alternative Transmission Line Route 2). Based upon the analysis contained in the FEIS/FEIR, and the additional factors considered during the reconsideration process, it was determined that the proposed Project with Alternative Transmission Line Route 2 is more environmentally preferable and would best serve the public's interest and result in the fewest environmental impacts. Therefore, in compliance with both CEQA and NEPA, the Project, as modified

(Alternative Transmission Line Route 2) is now considered the Environmentally Superior Alternative, as well as the Environmentally Preferred Alternative.

## **VIII. ADDITIONAL MITIGATION MEASURES**

### **A. Permit Conditions of Approval**

The COA will be enforced by requiring appropriate adjustments to each permit proposal, prior to agency approval.

1. To the maximum extent practicable, noise will be controlled through the use of mufflers, baffles, and other noise-deadening devices, through careful control of pipe and machinery handling, and other means developed in consultation with Calpine, the Tribes, and the Coalition, to minimize noise at locations where natural quiet is important to cultural use of the area by the Tribes.
2. Calpine or any successor-in-interest shall obtain the services of a professional landscape architect to minimize visual impact of the area including the power site. In consultation with a professional landscape architect, to the maximum extent practicable, visual impacts will be reduced through the use of light shrouds, non-specular and appropriately colored facilities and construction materials, cooling tower design to facilitate steam-plume dissipation, and other means developed in consultation with Calpine, the Tribes, and the Coalition.
3. Calpine shall provide the Tribes free and unrestricted access to the Project area, to the extent permitted by safety considerations, resource protection needs, project and public land security needs, and other limitations, consistent with applicable laws and regulations, before, during, and after the life of the Project. Any specific limitations restricting tribal access must be submitted by Calpine to the BLM and the FS for approval.
4. Calpine shall comply with the specific mitigation measures listed under the “PROPOSED ACTION” column in Table ES.6 of the FEIS/FEIR prepared for the Telephone Flat Geothermal Development Project.
5. Calpine shall comply with the specific mitigation measures listed under the “TELEPHONE FLAT PROJECT ROUTE (LINE SEGMENTS D2 + B2)” column in Table ES.7 of the FEIS/FEIR prepared for the Telephone Flat Geothermal Development Project.
6. Calpine shall comply with the specific mitigation measures listed under the “Summary List of the Identified Significant Cumulative Environmental Impacts of the Telephone Flat and Fourmile Hill Geothermal Development Projects” column in Table ES.8 of the FEIS/FEIR prepared for the Telephone Flat Geothermal Development Project.

## **B. Agency Commitments**

As approving agencies, the BLM and the FS shall ensure that the possible impacts from the Project on historic properties and other resources are minimized through enforcement of laws, regulations, lease terms, and permit COA, as summarized in the following:

**1. Auditory Effects.** In consultation with the Tribes, the Coalition, and Calpine, the BLM and the FS shall document locations where natural quiet is important to traditional use of the area by the Tribes. The BLM and the FS will ensure that noise associated with the approved Project activities is monitored at these locations prior to and during Project activities. Noise will be minimized at these locations to the maximum practical extent through the use of best available technology.

**2. Visual Effects.** In consultation with the Tribes, the Coalition, and Calpine, the BLM and the FS shall identify site-specific locations where the sight of Project activities (e.g., drilling and flow testing), power plant construction and operation (e.g., night lighting and steam plumes), ancillary facilities construction and operation (e.g., pipelines and transmission lines) may impact the cultural use of the area by the Tribes. The BLM and the FS will ensure that Project activities, and structures are not visible from such sites, or, if lack of visibility cannot be achieved, that visibility is minimized during the operation of the activity or activities through the use of the best available technology.

**3. Access Limitations.** In accordance with Executive Order No. 13007, the BLM and the FS shall ensure that the Tribes are afforded free and unrestricted access to public lands in the Highlands, including the Project area, to the extent permitted by safety considerations, resource protection needs, project and public land security needs, and other limitations, consistent with applicable laws and regulations, before, during, and after the life of the Project.

**4. Archaeological Site Effects.** In consultation with the SHPO, the Tribes, the Coalition, and Calpine, the BLM and the FS shall, prior to initiation of any ground-disturbing activities, complete any remaining survey work, to ensure that any archaeological sites subject to direct effects (e.g., well drilling or construction) and potentially indirect effects (e.g., artifact collecting or vandalism) resulting from the Project are identified, and that the sites receive the proper protection or mitigation, as provided under the laws. Protection is the preferred objective and may be achieved through such means as Project design, relocation of Project facilities, and site burial. Mitigation may include data recovery in a manner consistent with contemporary archaeological practices, balanced with the interests of the Tribes. Should there be disagreement among the Tribes as to whether and/or how to conduct data recovery, or otherwise avoid or minimize effects to a site, the BLM and the FS will afford the Tribes a reasonable opportunity to resolve the disagreement, and, in consultation with the SHPO, implement a decision which incorporates the collective recommendations of the Tribes. When data recovery is the selected mitigation, the BLM and the FS will approve the design



and implementation of the data recovery, to the maximum extent practicable in a manner consistent with the Council's *Recommended Approach for Consultation on Recovery of Significant Information from Archaeological Sites* (64 FR 27085-27087, May 18, 1999). Recovered material and data shall be managed in accordance with 36 CFR 79, except for any American Indian cultural items repatriated to Tribes pursuant to the Native American Graves Protection and Repatriation Act (NAGPRA). In consultation with the Tribes, the BLM and the FS will ensure that a Plan of Action is developed and implemented in accordance with 43 CFR Part 10 for the management of NAGPRA items.

**5. Air and Water Quality.** The BLM and the FS, together with the Siskiyou County Air Pollution Control District and the California Regional Water Quality Control Board, shall ensure that the quality of the air and water in the Medicine Lake Highlands is protected through the use of appropriate pollution control devices and measures.

**6. Plants and Wildlife.** The BLM and the FS shall approve operations in order to minimize impacts on native plants and wildlife, and re-vegetate disturbed lands to meet the management objectives of the Amended Biological Assessment, and of the Modoc National Forest Land and Resource Management Plan.

**7. Contingency Plans.** The BLM and the FS shall ensure that Calpine and any successor-in-interest develops and annually updates Contingency Plans to control unanticipated Project impacts on the natural and cultural environment resulting from such hazards as well pad sump and pipeline leakages, well blowouts, and fire.

**8. Decommissioning and Reclamation.** The BLM and the FS shall, after consultation with the Tribes and the Coalition, ensure that upon decommissioning of the Project, or upon abandonment of the Project after well testing, if such testing reveals no usable resource, all lands impacted by the Project's operations are restored to meet the management objectives of the Amended Biological Assessment and the Modoc National Forest Land and Resource Management Plan.

**9. Project Monitoring.** The BLM and FS shall implement a monitoring program to ensure that Calpine and any successor-in-interest complies with applicable laws, requirements, lease terms, permit Conditions of Approval, and other mitigating measures, and will afford the Tribes, the Coalition, and SHPO the opportunity to participate in such monitoring. Included in this monitoring program shall be the establishment of a federal oversight group to review monitoring data and the compliance of Calpine and any successor-in-interest with various impact thresholds established in the FEIS/FEIR.

**10. Reclamation Bonding.** The BLM and FS shall require Calpine or any successor-in-interest to post financial assurance in an amount sufficient to cover all costs of site reclamation, including but not limited to well plugging and abandonment, power plant and transmission line removal, and site reclamation. The surety instrument shall be specific to

the Project and shall be in addition to the BLM lease and site license bond requirements under 43 CFR 3214.13. The BLM will require that the surety instrument be posted subject to partial or complete forfeiture if the conditions of approval and permit terms are not completed within time periods specified by the BLM, provided that the BLM may agree to an extension of any such time periods, in consultation with the Tribes and the FS. In the event forfeiture is imminent, BLM shall notify Calpine or its successor-in-interest that the surety instrument is subject to forfeiture, and shall allow Calpine or its successor 30 days to respond before taking action to execute forfeiture. The BLM shall release the surety instrument, in whole or in part, as specific provisions are completed to the satisfaction of the approving agency or agencies, in consultation with the Tribes.

**11. Phasing.** In consultation with the SHPO, the Tribes, the Coalition, and Calpine or any successor-in-interest, the BLM and the FS may implement these commitments in phases throughout the Project's development.

## **IX. ADMINISTRATIVE REVIEW OR APPEAL OPPORTUNITIES**

This decision is signed by the U.S. Department of the Interior, Assistant Secretary for Land and Minerals Management, and the U.S. Department of Agriculture, Chief of the Forest Service.

As such, this approval of the Telephone Flat Geothermal Development Project constitutes the final administrative action for the U.S. Department of the Interior.

Pursuant to the terms of the Settlement Agreement, the Department of Agriculture's portion of the decision (see Section II. C.) is subject to appeal in accordance with the regulations at 36 CFR 215. No part of the Department of the Interior's decision is appealable under 36 CFR 215. An appeal may be filed by those who have commented on or otherwise expressed interest in this specific project before the close of the comment period. To appeal this decision, a written appeal must be postmarked or received within 45 calendar days after the date of notice of this decision in The Modoc Country Record newspaper (Alturas, California). However, when the 45-day appeal filing period would end on a Saturday, Sunday or federal holiday, the filing time is extended to the end of the next federal working day. The appeal must be sent by mail to: USDA Natural Resources and Environment, ATTN: Mark Rey – Under Secretary, 1400 Independence Avenue, SW, Room 217E, Whitten Building, Washington, DC 20250-0108. Contents of an appeal must meet the requirements at 36 CFR 215.14.

If no appeal is filed, this decision may be implemented on, but not before 5 business days from the close of the appeal filing period. If an appeal is filed, this decision may not be implemented for 15 calendar days following the date of appeal disposition. In the event of multiple appeals on this decision, the date of the last appeal disposition controls the implementation date.

## X. SUMMARY STATEMENT /SIGNATURES /DATE

As the responsible official for authorizing the U.S. Department of the Interior's proposed actions, I have determined that permitting the power plant construction and development of the geothermal resources are in the public interest, and I hereby authorize Permits and Licenses to be issued, after completing any remaining on-the-ground, site-specific cultural surveys of proposed ground-disturbing actions, and applying the mitigation that is identified in this document.



Assistant Secretary – Land and Minerals Management  
Department of the Interior

11/26/02  
Date

As the responsible official for authorizing the Department of Agriculture's proposed actions, I have determined that permitting a transmission line, road use permit and temporary use of a water well and water line is in the public interest, and I hereby authorize the appropriate permits to be issued after completing any remaining on-the-ground, site-specific cultural surveys of proposed ground-disturbing actions, and applying the mitigation that is identified in this document.



Chief, Forest Service  
Department of Agriculture

11/26/02  
Date